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# Abstract Book



HVet / UnB, evaluating 21 small ruminants urolithiasis cases from 2000 until September 2011.

**Results:** There are reports of 21 cases of urolithiasis in small ruminants all males, being 20 cases in sheep and 1 case in a goat of the Saanen breed. The patients's ages ranged from 2 months to 8 years all animals received food with high concentrate. 90% (18 cases) were from of the Santa Ines breed, 5% (1 case) of the Dorper breed and 5% (1 case) mixed animal. 76% (16 cases) had obstructive urolithiasis and 24% (5 cases) had non-obstructive. In 62.5% (10 cases) obstructive urolithiasis cases surgery was performed. Of ten surgery cases, 40% (4) were discharged and 60% (6 cases) dead. All non-obstructive cases were treated by the use of anti-inflammatory, fluid and vitamin C and had 100% success.

**Conclusions:** Urolithiasis is an important disease of order nutritional by intake of high concentrate (phosphorus) and requires attention to a correct feed management. Sheep farming has been greatly affected and the demand for medical care is more frequent in obstructive cases, which have a poor prognosis. The treatment with anti-inflammatory, fluid and vitamin C was effective in non-obstructive urolithiasis cases mainly in early stage of the disease. Financial support FINATEC.

## P: 1067

### Evaluation of the immune response of goats submitted to road transportation and treated with vitamins A, D and E

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**Objectives:** Livestock transportation is an unavoidable handling that can trigger stress. Consequences of stress include physiological, behavioral and welfare changes that may compromise the health and production of livestock. Stress increases the production of free radicals, leading to a greater using of antioxidants substances. A common product in veterinary is a combination of vitamins A and E, wich are antioxidants, with vitamin D. The aim of this study was to analyze possible changes and the influence of treatment with vitamin complex A, D and E in immune response of Boer goats subjected to short duration transport.

**Materials and Methods:** Twenty healthy adult female Boer goats, calved two months before were transported for four hours. They were divided into two groups of 10 animals; G1 received two doses of vitamin complex A, D and E (540000 IU of vitamin A, 160000 IU of D and 160 IU of vitamin E), seven and two days before transportation. G2 received an equivalent volume of saline. Blood samples for leucogram were performed at 14; 7; and 3 days pre-loading; immediately pre-loading; at landing, 1 and 3 hours after landing and 7 days after transportation. Blood samples for flow cytometry were performed at immediately pre-loading (M0) and 24 hours after landing (M1). The flow cytometry was used to quantificate leukocytes phagocytosis, using *Staphylococcus aureus* in conjunction with propidium iodide (SAPI) and intracellular hydrogen peroxide production, using 12-myristate 13-acetate (PMA) and lipopolysaccharides from *Escherichia coli* (LPS).

**Results:** Time or treatment had no influence on the leukocyte count. However, the leukocytes phagocytosis and intracellular hydrogen peroxide production levels decreased after transportation. Treatment had no influence on this parameter. In arbitrary values, stimulation with SAPI results, for G2 in M0 a mean of 53,7 and in M1 35,41 ( $P < 0,0001$ ), for G1 in M0 49,05 and M1 33,92 ( $P < 0,0001$ ). Stimulation with PMA results, for G2 in M0 a mean of 4722,7 and in M1 940,0 ( $P < 0,0001$ ), for G1 in M0 4741,3 and M1 996,2 ( $P < 0,0001$ ). Stimulation with LPS results, for G2 in M0 a mean of 937,4 and in M1 277,7 ( $P < 0,0001$ ), for G1 in M0 843,6 and M1 307,6 ( $P < 0,0001$ ).

**Conclusions:** Goats submitted to road transportation in appropriate conditions, even for short distances, maintain leukocytes number, but show an important decrease in their function. The treatment with vitamin complex A, D and E had no influence on immune response on this experiment.

## P: 1068

### Periodontitis in sheep in the state of Para, Brazil

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**Objectives:** The objective of this study was to describe the epidemiological, clinical and macroscopic findings of sheep with periodontitis belonging to two properties located in the Sate of Para.

**Materials and Methods:** The epidemiological data were obtained during visits to the properties and, for identification of animals with lesions compatible with the disease, were performed the inspection and palpation of the mandible and maxilla of all animals, besides the necropsy of some animals. **Results:** On the property I were examined 544 sheep; their feeding consisted of grazing on *Panicum maximum* cv Massai during the day, and supplementation, once a day, with elephant grass (grounded in very fibrous particles of about five centimeters) and barley, as well as addition of mineral salt and water at will. On the property II were examined 77 sheep; their feeding consisted of grazing on *Panicum maximum* cv Mombasa and *Brachiaria brizantha* during the day, and supplementation, once a day with elephant grass (chopped with a machete) and barley, as well as mineral salt and water at will. On both properties there were reports of animals with swelling on the jawbone with pus. On examination, it was observed that on the property I 3.5% (19/544) of animals, ranging in age from two to five years, presented lesions suggestive of periodontitis and on the property II, 3.8% (3 / 78 ), aged between four months and five years. The clinical signs were characterized by poor body score and asymmetry of the mandibular bodies; in the most severe cases, there was fistula present at the site involved, draining the pus secretion, demonstration of pain during chewing and food dropping from the mouth. Autopsies were performed on 15 animals and the lesions were characterized by wasting of the carcass, inflammation and receding gums, accumulation of food in the periodontal region, loosening and / or loss of pre-molars and molars, both maxillary and mandibular, and in some, presence of dental abscess at the base of the area affected.

**Conclusions:** The epidemiological data and the early lesions suggest that the fibrous feed predisposes traumas that can facilitate the entry and proliferation of microorganisms characterizing the clinical and pathological criteria of periodontitis.

## P: 1069

### Venereal shedding pattern of caprine lentivirus in semen of infected bucks.

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**Objectives:** The possibility of selection of Caprine arthritis encephalitis virus (CAEV)-free ejaculates from infected bucks enables the preservation of improved genotypes or endangered goat breeds avoiding premature culling. The objective of this study was to describe the CAEV shedding pattern in semen of infected bucks over a 12 months period.

**Materials and Methods:** Twelve bucks were repeatedly (weekly) sampled for blood and semen over a period of 12 months. Bucks 1 to 5 were inoculated (106 TCID50/mL intravenously (IV) with CAEV Wild strain and bucks 6 to 10 with CAEV Cork strain. Bucks 11 and 12 were used as controls. Serum was tested for the presence of anti-SRLV antibodies using Agar Gel Immunodiffusion test (AGID). Blood samples were taken by jugular venipuncture from all bucks. PBMCs were obtained by a ficoll density-gradient centrifugation. DNA was extracted from the leukocytes using a "DNA blood purification kit". Fresh semen samples were obtained by natural ejaculation. After collection, semen samples were separated into non-spermatic cells fraction (NSC). Viral DNA was obtained from NSC filtered fraction by a procedure using Chelex 100 resin. PCR nested procedure (n-PCR), was performed to detect CAEV proviral-DNA in blood and semen.

**Results:** Antibodies to CAEV were detected by means of AGID test in sera from 9 of 10 bucks throughout the experiment. Nine bucks (nos. 1-4 and 6-10) tested positive (n-PCR) for presence of CAEV proviral DNA via blood sample analysis after inoculation. Of the 10 bucks tested for CAEV, only one (no. 5) remained PCR negative as well as control males that remained continuously negative in both assays. The NSC fraction was tested for the presence of proviral DNA by n-PCR. PCR amplification using DNA isolated from NSC fraction detected CAEV in semen samples from all bucks tested. The buck no. 5 remained seronegative despite a CAEV PCR positive result in semen. All bucks shed proviral DNA in their semen during throughout sample period.

**Conclusions:** These results indicate that CAEV is shed intermittently into semen despite of virus strain and delayed seroconversion.

## P: 1070

### The use of melatonin in reproductive management of dairy sheep and goats in Greece

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**Objectives:** Off-season breeding is a valuable management tool in sheep and goat flocks when the aim is the production of milk and meat in high-demand periods. The notion is that melatonin is directly associated with breeding seasonality and its commercial product, Regulin® has been available in the Greek market for decades. However, its efficiency has not been assessed in practice. Hence, the objective of this study was to investigate the efficiency of melatonin implementation on off-season reproductive performance of dairy sheep and goats in Greece.

**Materials and Methods:** Eleven flocks (8 sheep and 3 goat flocks) were selected from different geographical areas in Greece: Peloponnese (4 sheep and 1 goat flock), Thessaly (2 sheep flocks), Central Macedonia (2 sheep and 1 goat flock) and Thrace (1 goat flock). The location of selected flocks represented a longitude and latitude range of 21° to 26° E and 37° to 41° N, respectively. A total of 778 sheep (from 23 to 209 per flock) and 274 goats (from 70 to 100 per flock) were used. Their body condition score was from 2.5 to 3.25. A single subcutaneous implant (18 mg of melatonin, Regulin®, CEVA LLC, Greece) for females and three implants for males were applied according to manufacturer's instructions. Afterwards, rams and bucks were separated from the ewes and the does, respectively, for 42 days. Breeding period lasted 6 weeks. Diagnosis of pregnancy was performed using ultrasound scanning, 124 days after the application of melatonin. Pearson correlation was used to reveal any correlations between longitude and latitude and pregnancy rate, using SPSS 18®.

**Results:** The results showed a pregnancy rate ranking from 92.6% to 100.0% and from 82.9% to 94.0% for sheep and goat flocks, respectively. Average conception rate for sheep flocks in Peloponnese, Thessaly and Central Macedonia was 95.9%, 95.2% and 91.5%, respectively. Regarding goat flocks it was 92.3%, 82.9% and 94.0%, respectively. No correlation was found between geographic coordinates and pregnancy rates.

**Conclusions:** In our study, application of melatonin was found to be associated with considerably high pregnancy rates during off-season breeding both for dairy sheep and goats. The results suggest that off-season induction of estrous is feasible in a high range of regions in Greece. The way forward should be the assessment of other indicators of reproductive performance such as, fertility, parturition interval and prolificacy for dairy sheep and goats.

## P: 1071

### Serum cortisol levels of newborn goat kids born by normal delivery and cesarean sections

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**Objectives:** The aim of this study was to evaluate the serum cortisol levels

of newborn goat kids from birth to 24 hours of life, born by normal deliveries and caesarean sections.

**Materials and Methods:** The blood samples were obtained using vacuum tubes without anticoagulant. Then they were centrifuged at 500g, for better separation of serum. This was transferred to appropriate ependorff, using an automatic pipette and frozen immediately at -20 °C, until the moment of their processing. Serum cortisol levels were analyzed by radio immunoassay test. Data were analyzed using a statistical program. The Friedman test was performed to determine whether there were any significant differences between moments, and mean values were compared by use of a Dunn test, and to compare the mean values between the different groups the t-Student test was performed. A value of P = 0,05 was considered significant for all tests.

**Results:** The average concentration of cortisol in animals born by normal deliveries at 24 hours old ( $6.5 \pm 4.98$  mg/dL) was significantly lower than the gotten concentrations in other moments ( $17.9 \pm 5.27$  mg/dL,  $16.7 \pm 7.51$  mg/dL,  $15.1 \pm 5.15$  mg/dL and  $15.9 \pm 5.32$  mg/dL at birth, five, ten and 15 minutes old, respectively). Serum cortisol concentrations of the kids born by cesarean sections were  $15.0 \pm 5.97$  mg/dL,  $17.6 \pm 9.35$  mg/dL,  $15.9 \pm 4.62$  mg/dL,  $16.1 \pm 5.44$  mg/dL and  $9.6 \pm 4.72$  mg/dL at birth, five, ten, 15 minutes and 24 hours old, respectively, where the value obtained at 24 hours old was also significantly lower. When the mean values were compared according to the type of delivery, no difference was observed in any of the moments.

**Conclusions:** The serum goat kids cortisol levels is influenced by age but is not influenced by the type of delivery.

## P: 1072

### Bone marrow mesenchymal stem cells from sheep

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**Objectives:** To evaluate the procedures of collection, isolation and cultivation of bone marrow (BM) mesenchymal stem cells (MSCs) from a lamb.

**Materials and Methods:** The MSCs were obtained from a lamb, Santa Ines crossbreed, male, 4-month old, weighing 25 kg. The aspiration of the BM was performed with previous sedation with morphine (0,3mg/kg) and acepromazine (0,03mg/kg). After the identification of the anatomic site with the animal in left side recumbency, it was performed a trichotomy, skin asepsy, anesthetic blockage on the site with lidocaine, followed by the introduction of the puncture needle of BM model Jamishidi®, in the coxal tuberosity, directed to the craniocaudal position with dorsal inclination of 45°. The needle was fixed inside the bone, and the aspiration of the BM was performed with the help of a 20ml syringe containing heparin and phosphate buffer saline (PBS). At the laboratory, in a laminar flux environment, the mononuclear layer was isolated in gradiente ficoll-paque plus (GE Healthcare®) and cultivated in bottles of 25cm<sup>2</sup> with half DMEM low glicosil /F12 at the rate 1:1, 20% of fetal bovine serum, penicillin/streptomycin (1%) and anfotericin B (1,2%) (Gibco®). The cultures were kept in incubator at 37°C with 5% of CO<sub>2</sub> and the maintenance environment was changed every 48 hours. The cells were evaluated on a daily basis regarding adhesion, morphology and time of cellular confluence. After the primary cultivation, the MSCs were submitted to immunocytochemistry analysis for the vimentin marker.

**Results:** The aspired volume of bone marrow from the coxal tuberosity was 10mL and the technique showed to be feasible and safe to be performed. The cells adhered to the plastic within 72 hours of cultivation when it was possible to observe the fibroblastoid morphology in some formed colonies. Cellular confluence superior to 80% were reached on the 10th day of culture. At the primary subcultivation the MSCs showed to be immunopositive for the vimentin marker, confirming the mesenchymal origin of the sample.

**Conclusions:** The pilot study demonstrated that the coxal tuberosity is an excellent anatomic site for collection of bone marrow, and the protocol of MSCs isolation and cultivation revealed efficient for future researches of cellular therapy in sheep.